

CHANGES IN THE ORAL EPITHELIAL BASEMENT MEMBRANE IN CHRONIC GRAFT VERSUS HOST DISEASE

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Introduction

Graft-versus-host disease (cGVHD) is a common complication of allogenic hematopoietic cell transplantation. Histopathophysiology and disease mechanisms remain poorly understood but changes in the epithelial basement membrane (BM) have been identified as key features in our development of an oral mucosal histological grading module for cGVHD.

Aim

To investigate structural and quantitative histological BM changes with increasing oral mucosal cGVHD severity.

Material and methods

58 biopsies from oral cGVHD-patients and controls, histologically graded none to extreme, were investigated for structural changes by Periodic acid-Schiff staining and immunohistochemistry (IHC) for laminin subunit gamma 2 (LAMC2) and collagen IV (COLIV). Quantitative image analysis was performed on IHC stained sections for LAMC2.

Results

BM-thickness increased with cGVHD histological severity, however BM thinning and the formation of pseudo-rete ridges were found at extreme stages ($p < 0.05$). LAMC2 showed significant changes in localisation and quantity with severity of cGVHD from none to extreme ($p < 0.05$).

Conclusions

We report that oral cGVHD is associated with extensive changes to the epithelial BM with severity of cGVHD. These results contribute to a better understanding of cGVHD progression and potential underlying disease mechanisms. Furthermore, the dynamic BM changes support the features identified within our newly developed oral cGVHD histopathological grading module.

Bifogas anmälningsblankett för forskningsrapport

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